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## NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

06/02/2009

Attn: Elsa Keller, Legal Administrator  
Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER

BRUCKART, BENJAMIN R

ART UNIT

PAPER NUMBER

2446

DATE MAILED: 06/02/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/723,932

11/26/2003

Saravanakumar V. Tiruthani

2003P00078US

9779

TITLE OF INVENTION: SYSTEM AND METHOD FOR DISTRIBUTED MODELING OF REAL TIME SYSTEMS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	09/02/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

7590

06/02/2009

Attn: Elsa Keller, Legal Administrator  
Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/723,932

11/26/2003

Saravanakumar V. Tiruthani

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TITLE OF INVENTION: SYSTEM AND METHOD FOR DISTRIBUTED MODELING OF REAL TIME SYSTEMS

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nonprovisional

NO

\$1510

\$300

\$0

\$1810

09/02/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
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BRUCKART, BENJAMIN R

2446

709-223000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

1 \_\_\_\_\_

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 \_\_\_\_\_

3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/723,932	11/26/2003	Saravanakumar V. Tiruthani	2003P00078US	9779

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EXAMINER

BRUCKART, BENJAMIN R

ART UNIT

PAPER NUMBER

2446

DATE MAILED: 06/02/2009

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 505 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 505 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/723,932	TIRUTHANI, SARAVANAKUMAR V.	
	<b>Examiner</b>	<b>Art Unit</b>	
	BENJAMIN R. BRUCKART	2446	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the interview of 5/27/09.
2. ☒ The allowed claim(s) is/are numbered 1-15.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                            |                                                                                        |
|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|                                                                                                            | 9. <input type="checkbox"/> Other _____.                                               |

**EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview and email with Charles Peterson, Jr.; Reg. No. 34,406 on 5/28/2009.

The application has been amended as follows:

**Listing of Claims:**

1. (currently amended) A telecommunications method, comprising: defining one or more system components as corresponding distributed modules using a module definition language;

defining one or more function parameters for said one or more system components, the function parameters defining behavior of each system component in the system and a message and log structure for recording and analyzing the history of message traversal through various other ones of said one or more system components;

implementing in each of said one or more system components the function defined for the respective system component;

generating SIP INVITE messages at a rate specified in a respective module definition;

introducing load and delay in a Real Time Communications protocol (RTC) module for each of said SIP INVITE messages as specified in the respective module definition;

receiving said SIP INVITE messages from said RTC module at an Assistant Engine (AE) module, said AE module generating a CSTA notification for each of said SIP INVITE messages from said RTC module;

receiving CSTA notifications at a Virtual Assistant (VA) module, said VA module processing received said CSTA notifications and returning CSTA responses to said AE module;  
generating SIP INVITE messages for said CSTA responses and returning said generated SIP INVITE messages to the SIP INVITE generator through said RTC module; and logging in each of said one or more system components a result of said implementing, the module definition language including an MDLScript tag.

2. (previously presented) A telecommunications method in accordance with claim 1, wherein said defining said one or more system components and said one or more function parameters are implemented on a plurality of system components.

3. (original) A telecommunications method in accordance with claim 1, wherein said one or more function parameters comprise CPU delay.

4. (original) A telecommunications method in accordance with claim 1, wherein said one or more

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function parameters comprise CPU load.

5. (currently amended) A telecommunications system, comprising:

- a network;

- a plurality of network devices coupled to said network; and

- a modeling system for modeling functions of said network and said one or more network devices, said modeling system adapted to be distributed among said one or more network devices using modules defining real-time system components, at least two of said plurality of network devices including said modeling system, said modules defining behavior of each real-time system component in the telecommunications system and a message and log structure for recording and analyzing the history of message traversal through various other system components, the modules defined in a module definition language including an MDLScript tag, wherein at least one of said plurality of network devices is a SIP device;

- a SIP Invite generator generating SIP INVITE messages at a rate specified in the module definition;

- a Real Time Communications protocol (RTC) module receiving said SIP INVITE messages from a said SIP Invite generator, said RTC module introducing load and delay for every SIP INVITE message as specified in the module definition;

- an Assistant Engine (AE) module receiving said SIP INVITE messages from said RTC module and generating CSTA notifications for said SIP INVITE messages from said RTC module;

- a Virtual Assistant (VA) module receiving said CSTA notifications from said AE module and processing received said CSTA notifications, said VA module returning CSTA responses to said AE module, said AE module generating a SIP INVITE message for each of said CSTA responses, the SIP INVITE message being returned to the SIP INVITE generator through said RTC module, said SIP INVITE generator logging returned messages in a log, the log containing returned message time stamps;

- a web server module; and

- a database module, said web sever module and said database module consuming CPU/Memory resources at a rate and amount specified in said module definition.

6. (previously presented) A telecommunications system in accordance with claim 5, said plurality of network devices includes said modeling system.
7. (original) A telecommunications system, in accordance with claim 6, said modeling system adapted to model one or more system components using an XML-based model definition language.
8. (original) A telecommunications system in accordance with claim 7, said modeling system including one or more modules, each module defining a system component.
9. (original) A telecommunications system in accordance with claim 7, wherein said modeling system models system delay.
10. (original) A telecommunications system in accordance with claim 7, wherein said modeling system models system load.
11. (currently amended) A telecommunications system, comprising:
  - a network;
  - a plurality of network devices coupled to said network;
  - a Real Time Communications protocol (RTC) module receiving messages from and passing messages to said plurality of network devices;
  - a Virtual Assistant (VA) module processing received CSTA notifications ~~messages~~ and providing CSTA responses ~~response messages~~;
  - an Assistant Engine (AE) module interfacing passing messages between ~~between~~ said RTC module and said VA module, said AE module generating CSTA notifications from incoming RTC messages and outgoing RTC messages from CSTA responses; and a modeling system for modeling functions of said network and said one or more network devices, said modeling system defining modules adapted to be distributed among said one or more network devices, at least two of said plurality of network devices including said modeling system, said modeling system



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including an XML-based modeling language for defining said modules, each including models of one or more system components and defining behavior of each system component in the telecommunications system and a message and log structure for recording and analyzing the history of message traversal through various other system components, the modules defined in a module definition language including an MDLScript tag, wherein at least one of said plurality of network devices is a SIP device;

a SIP Invite generator generating SIP INVITE messages at a rate specified in the module definition and sending generated SIP INVITE messages to said RTC module, said RTC module introducing load and delay for every SIP INVITE message as specified in the module definition and passing the SIP INVITE message to said AE module, said AE module passing the SIP INVITE message to said VA module, said VA module returning the SIP INVITE message to the SIP INVITE generator through said AE module and said RTC module, said SIP INVITE generator logging returned messages in a log, the log containing returned message time stamps that can be analyzed to measure the delay characteristics;

a web server module; and

a database module, said web sever module and said database module consuming CPU/Memory resources at a rate and amount specified in said module definition.

12. (original) A telecommunications system in accordance with claim 11, further including a directory defining a name and parameters of other modules being modeled by said system which a given module needs to work with.

13. (original) A telecommunications system in accordance with claim 12 said modules including a loop module for modeling a non-real-time component.

14. (original) A telecommunications system in accordance with claim 13, one or more modules defining a CPU load.

15. (original) A telecommunications system in accordance with claim 13, one or more modules defining a system delay.

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Art Unit: 2446

Page 7

16 – 17 (canceled).

### **REASONS FOR ALLOWANCE**

The following is the examiner's statement of reasons for allowance:

Independent claims 1, 5 and 11 among other things teach defining system components using a module definition language through parameters, the function parameters defining behavior of each system component and message and log structure for recording and analyzing the history of message traversal through the aforementioned components; generating SIP inventions at a rate specified in the module definition to introduce load and delay in real time communications protocol for each of the SIP invite messages; receiving the invites at an AE engine module and generating a CSTA notification for each of the SIP invites; receiving CSTA notifications at a VA module for processing and returning responses to the AE module; generating SIP invite messages for said CSTA responses and returning said SIP invites messages to the RTC module; where the logging in each of the components a result of implementing, the module definition language including MDLScript tag for emulating and monitoring in a computer networking environment.

The prior art does not teach the cited limitation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **CORRESPONDANCE INFORMATION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R. Bruckart whose telephone number is (571) 272-3982. The examiner can normally be reached on 9:00-5:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin R Bruckart  
Examiner  
Art Unit 2446

/Benjamin R Bruckart/  
Primary Examiner, Art Unit 2446